

WEST Search History

DATE: Sunday, November 14, 2004

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| | <i>DB=USPT; PLUR=YES; OP=ADJ</i> | | |
| <input type="checkbox"/> | L7 | search\$3 near3 (request\$ or information) same (score or frequency or match\$) and (world wide web or www) and 709/2\$\$ccls. and 705/1\$.ccls. and business and online and internet | 4 |
| <input type="checkbox"/> | L6 | search near3 (request\$ or information) same (score or frequency or match\$) and (world wide web or www) and 709/2\$\$ccls. and 705/1\$.ccls. and business and online and internet | 3 |
| <input type="checkbox"/> | L5 | search near3 (request\$ or information) same (score or frequency or match\$) and (world wide web or www) and 709/2\$\$ccls. and 705/1\$.ccls. | 5 |
| <input type="checkbox"/> | L4 | search near3 (request\$ or information) same (score or frequency or match\$) and (world wide web or www) and 709/2\$\$ccls. | 115 |
| <input type="checkbox"/> | L3 | search near3 (request\$ or inormation) same frequency and (world wide web or www) and 709/2\$\$ccls. | 3 |
| <input type="checkbox"/> | L2 | search near3 (request\$ or inormation) same frequency and (world wide web or www) and 709/2\$4.ccls. | 3 |
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L1: Entry 19 of 19

File: USPT

Aug 3, 1999

DOCUMENT-IDENTIFIER: US 5933822 A

TITLE: Apparatus and methods for an information retrieval system that employs natural language processing of search results to improve overall precision

Brief Summary Text (6):

However, with the advent and proliferation of the so-called "world-wide web" (hereinafter simply referred to as the "web") accessible through the Internet and the relative ease and low-cost associated with posting information to the web and accessing information therefrom as contrasted with traditional publishing, the amount of information available on the web manifests highly exponential, if not explosive, growth, with apparently no realistic limit in sight. While the web offers an increasingly rich array of information across all disciplines of human endeavor, information content on the web is highly chaotic and extremely disorganized, which severely complicates and often frustrates information access and retrieval therefrom.

Brief Summary Text (9):

Consequently, to reduce the number of irrelevant documents that are retrieved, conventional keyword based search engines (hereinafter referred to as simply "statistical search engines") incorporate statistical processing into their search methodologies. For example, based on a total number of matching key words between those in the query and the content words in each retrieved document record and how well these words match, i.e., in the combination and/or within a proximity range requested, a statistical search engine calculates numeric measures, collectively frequently referred to as "statistics", for each such document record retrieved. These statistics may include an inverse document frequency for each matching word. The engine then ranks the document records in terms of their statistics and returns to the user the document records for a small predefined number of retrieved records, typically 5-20 or less, that have the highest rankings. Once the user has reviewed a first group of document records (or, for some engines, the documents themselves if they are returned by the engine) for a first group of retrieved documents, the user can then request a next group of document records having the next highest rankings, and so forth until all the retrieved document records have been so reviewed.

Brief Summary Text (16):

A further syntactic-based approach of this sort is described in B. Katz, "Annotating the World Wide Web using Natural Language", Conference Proceedings of RIAO 97, Computer-Assisted Information Searching in Internet, McGill University, Quebec, Canada, Jun. 25-27, 1997, Vol. 1, pages 136-155 [hereinafter the "Katz publication"]. As described in the Katz publication, subject-verb-object expressions are created while preserving the internal structure so that during retrieval minor syntactic alternations can be accommodated.

Brief Summary Text (23):

In accordance with our specific teachings, such a search ultimately yields a set of retrieved documents from, e.g. a database or the world wide web. Each document is then subjected to natural language processing, specifically morphological,

syntactic and logical form, to ultimately produce appropriate logical forms for each sentence in each document. A user-supplied query is analyzed in the same manner to yield a set of corresponding logical form triples therefor. The set of logical forms for the query is then compared to the sets of logical forms associated with each of the retrieved documents in order to ascertain a match between logical forms from the query set and logical forms from each document set. Documents that produce no matches are eliminated from further consideration. Each remaining document is then heuristically scored. In particular, each different relation type, i.e., such as deep subject, deep object, operator and the like, that can occur in a logical form is assigned a predefined weight. The score of each such remaining document is a predefined function of the weights of the matching logical forms therein. This function may be, e.g., a sum of the weights associated with all unique matching triples (duplicate matches being ignored) which occur in that document. Finally, the retained documents are then presented to a user in descending rank order based on their scores, typically in groups of a small predefined number of, e.g. five or ten, documents starting with the group having the highest scores, then followed, in descending rank order, by other groups in succession, as the user so selects.

Detailed Description Text (7):

Inasmuch as system 5 is very general purpose and can be adapted to a wide range of different applications, then, to simplify the following discussion, we will discuss use of our invention in one illustrative context. That context will be an information retrieval system that employs a conventional keyword based statistical Internet search engine to retrieve stored records of English-language documents indexed into a dataset from the world wide web. Each such record generally contains predefined information, as set forth below, for a corresponding document. For other search engines, the record may contain the entire document itself. Though the following discussion addresses our invention in the context of use with a conventional Internet search engine that retrieves a record containing certain information about a corresponding document including a web address at which that document can be found, generically speaking, the ultimate item retrieved by that engine is, in fact, the document, even though an intermediate process, using that address, is generally employed to actually access the document from the web. After considering the following description, those skilled in the art will readily appreciate how our present invention can be easily adapted for use in any other information retrieval application.

Detailed Description Text (8):

FIG. 2 depicts a high-level block diagram of a particular embodiment of our invention used in the context of an Internet search engine. Our invention will principally be discussed in detail in the context of this particular embodiment. As shown, system 200 contains computer system 300, such as a client personal computer (PC), connected, via network connection 205, through network 210 (here the Internet, though any other such network, e.g. an intranet, could be alternatively used), and network connection 215, to server 220. The server typically contains computer 222 which hosts Internet search engine 225, typified by, e.g., the ALTA VISTA search engine (ALTA VISTA is a registered trademark of Digital Equipment Corporation of Maynard, Mass.) and is connected to mass data store 227, typically a dataset of document records indexed by the search engine and accessible through the World Wide Web on the Internet. Each such record typically contains: (a) a web address (commonly referred to as a uniform resource locator--URL) at which a corresponding document can be accessed by a web browser, (b) predefined content words which appear in that document, along with, in certain engines, a relative address of each such word relative to other content words in that document; (c) a short summary, often just a few lines, of the document or a first few lines of the document; and possibly (d) a description of the document as provided in its hypertext markup language (HTML) description field.

Other Reference Publication (1):

B. Katz, "Annotating the World Wide Web using Natural Language", Conference Proceedings of RIAO 97, Computer-Assisted Information Searching in Internet, McGill University, Quebec, Canada, Jun. 25-27 1997, vol. 1, pp. 136-155.

Other Reference Publication (9):

O. Etzoni, "The World-Wide Web: Quagmire or Gold Mine", Communications of the ACM, Nov. 1996, vol. 39, No. 11, pp. 65-68.

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Generate Collection

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L5: Entry 4 of 5

File: USPT

Aug 28, 2001

DOCUMENT-IDENTIFIER: US 6282543 B1

TITLE: Database search and display method and database search system

Brief Summary Text (6):

There has been a technique for searching databases distributed on a network and displaying retrieved information. The WWW (World Wide Web) utilizing the Internet is an example of such technique, with which a user can easily and inexpensively obtain a desired information, and is becoming popular worldwide rapidly.

Brief Summary Text (7):

In the WWW, search software for performing a keyword search such as "Yahoo!" is well known and widely used as directory services for notifying database to be accessed.

Brief Summary Text (12):

FIG. 1 shows an example in which this technique is applied to the Internet. In FIG. 1, a directory information provider 30 stores a scenario information 40 composed of URL and information assigning a time interval of transmission of URL. The directory information provider 30 transmits URL arranged on a time axis described in the scenario information 40 to a database searcher 20 according to the assigned time interval. In the database 20, a browser controller 22 receives URL from the directory information provider 30 and outputs it to a WWW browser 21. The WWW browser 21 accesses a corresponding WWW server 61, 62, . . . , or 6n on the Internet on the basis of the input URL, down-loads a home page of the assigned URL and displays it on the WWW browser.

Brief Summary Text (14):

As mentioned above, according to the database search method utilizing WWW and device therefor proposed by the inventors, the user can watch and hear the information of the home page sent from the WWW server by watching a screen of the WWW browser as if he watches a television screen.

Brief Summary Text (15):

That is, according to the database search method utilizing WWW and device therefor proposed by the inventors, the user can watch a screen of the WWW browser as if he watches a television screen and the information provider can show the user an information which the information provider wants to show in a sequence desired by the information provider.

Brief Summary Text (36):

A fifth aspect of the present invention is an application of the present invention to the database search system in the Internet. The database search system comprises a World Wide Web database provider connected to the Internet, a directory information provider for retrieving a position information of data on the Internet and providing a directory information thereof and a database searcher for acquiring data of the database provider and displaying the data of the database provider to a user on the basis of the directory information of the directory information provider. The directory information provider provides scenario information composed of main information presenting sequence control information for arranging position information of the main information to be output/displayed to a user of the

database searcher on a time axis, secondary information presenting sequence control information for inserting a secondary information into the main information and outputting/displaying it and presenting control information for controlling insertion timing of the secondary information into the main information. The database searcher comprises means for inserting the secondary information into the main information on the basis of the scenario information of the directory information provider and outputting/displaying the secondary information.

Detailed Description Text (3):

FIG. 3 shows an example of a system construction of a database search system according to the present invention in which the present invention is applied to a case where a WWW (World Wide Web) server is searched by utilizing WWW browsers on an Internet.

Detailed Description Text (4):

The database search system comprises WWW servers 61, 62, . . . , 6n which are WWW database providers connected to the Internet 50, a directory information provider 30 for searching position information of data on the Internet and providing directory information thereof and a database searcher 20 for acquiring data of the WWW servers 61, 62, . . . , 6n on the basis of the directory information of the directory information provider 30 and displaying it to a user. The directory information provider 30 provides scenario information 40 composed of main information presenting sequence control information 41 for arranging position information of a main information to be output/displayed to a user of the database searcher 20 on a time axis, secondary information presenting sequence control information 42 for inserting secondary information into an output/display of the main information and a presenting frequency control and information 43 for controlling the insertion timing of the secondary information into the main information. The database searcher 20 comprises a WWW browser 21 and a browser control means as means for inserting the secondary information into the main information based on the scenario information 40 of the directory information provider 30.

Detailed Description Text (5):

FIG. 4 shows an example of the construction of the directory information provider 30 which includes a communication unit 31 for communicating with the network, an insert unit 32 for inserting the secondary information into the main information and supplying the main information together with the secondary information to the communication unit 31 and a memory unit for storing the scenario information 40. The scenario information 40 is composed of an information position information (URL) and time information and includes, as information of a presenting scenario of search information, the main information presenting sequence control information 41, the secondary information presenting sequence control information 42 and the presenting frequency control information 43. The main information presenting sequence control information 41 takes in the form of a main information described with the position information (URL) of the main information and the time information and arranged on a time axis. Similarly, the secondary information presenting sequence control information 42 takes in the form of secondary information described with the position information (URL) of the secondary information and the time information and arranged on a time axis.

Detailed Description Text (16):

First, the user down-loads the scenario information 40 by accessing the directory information provider 30 from the database searcher 20 and stores the scenario information in its own memory as a scenario information 26. When information is to be displayed by performing the database search, the user acquires the position information of the main information and the secondary information by analyzing the scenario information 26 by a scenario analyzer 24 of a browser controller 22, acquires a search information (file) from a WWW server 61, 62 . . . , or 6n and outputs the main information through a communication device 23 to a WWW browser 21

while inserting the secondary information into the main information. The WWW browser 21 displays the information retrieved under control of the browser controller 22. A timer 25 is used for the time control of information to be displayed and the time control when the secondary information is inserted into the main information every predetermined time. The user can read the main information inserted with the secondary information every predetermined time by the WWW browser 21. Incidentally, in a case where the secondary information is inserted into the main information correspondingly to the number of display pages of the main information, the number of pages of the main information is counted by providing a page counter. Although, in the described embodiment, the database search is performed in the Internet as the network, the present invention can be applied to other networks. For example, the present invention can be applied to the database search/display in a network which is constructed with a plurality of servers and a client connected to each other through a transmission line and databases distributed in the servers, a network in a specific enterprise or other closed networks.

Detailed Description Text (22):

Therefore, it is possible to insert the advertisement, etc., in the WWW server of the Internet as the secondary information and the database provider can expect the advertising revenue.

Current US Cross Reference Classification (1):

705/14

Current US Cross Reference Classification (4):

709/232

CLAIMS:

6. A database search system comprising:

a World Wide Web database provider connected to the Internet;

a directory information provider for retrieving position information of data on the Internet and providing directory information thereof; and

a database searcher for acquiring data of said database provider and displaying the data of said database provider to a user on the basis of the directory information of said directory information provider,

said directory information provider comprising means for providing scenario information comprised of main information presenting sequence control information for arranging position information of the main information to be output/displayed to a user of the database searcher on a time axis, secondary information presenting sequence control information for inserting secondary information into the main information and outputting/displaying it and presenting control information for controlling insertion timing of the secondary information into the main information,

said database searcher comprising means for inserting the secondary information into the main information on the basis of the scenario information of said directory information provider and outputting/displaying the secondary information,

wherein the secondary information is advertisement information inserted into said database providing server and the secondary information is set such that the display inhibition on the side of the user is invalidated.

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